

APPROVED FOR PUBLIC RELEASE

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The GOES-R Government Reference Architecture

The Government has created a Government Reference Architecture (GRA) to describe what the GOES-R system might look like in 2012 and how it might operate in the 2012 – 2029 timeframe. This architecture is used interpret GOES-R requirements as delineated in the Mission Requirements Document (MRD), estimate life cycle costs, develop program budgets, identify risks, and support general programmatic planning including establishing interface requirements. The GRA encompasses all aspects of the end-to-end GOES-R system (instruments, flight, operations) and considers previous Government and Industry architecture studies – both system and subsystem (e.g., instruments) level.

Previous Government and industry studies identified several possible architectures as capable of meeting GOES-R requirements. Most significantly, differing satellite configurations based on separating payloads were identified. The strategy for PDRR was to have this be a contractor defined item based on their preferred solution. To support this approach for the system and satellite, the instruments are being procured and designed to support any of the potential satellite configurations. However, reducing the configuration compatibility requirements for the instruments may provide risk mitigation and programmatic relief for the instrument development efforts.

Based on the above information and in reflection of other programmatic changes in the instrument efforts, the Government intends to update the GRA to reflect a singular configuration approach for the instrument efforts. This updated GRA will be provided to the contractors at PDRR ATP. The contractors will be expected, through the GRA trade study to identify the benefits and impacts of the proposed change. Once the data is available, the Government will make a final decision regarding the instrument efforts.

Whatever, the decision regarding the compatibility support provided by the instruments (e.g., single configuration), the contractors are still free, and encouraged, to pursue the best system and satellite configuration with the understanding the satellite solution will be expected to support the Government developed instrument baseline. An open architecture decision enables contractors to propose their most creative and unique solutions, as no one architecture is precluded prematurely. If any programmatic aspects change in the future, an open architecture provides the contractor with additional flexibility to address all system trades.

The basis for the selection of the GRA include, but are not limited to, MRD requirements, life cycle cost (both total cost and cost per operational year of service), instrument programmatics, and operational need date – specifically the need to have an ABI on-orbit no later than (NLT) September 2012 and a HES on-orbit NLT September 2013.